

## Radiology

# MRI: Small bowel (mannitol)

Your doctor has advised that you have an MRI scan of your small bowel. MRI uses a powerful magnet and a computer to produce detailed pictures of the body. It does not use X-rays. An MRI scan is performed by a radiographer.

This leaflet will explain what to expect in your MRI appointment and how you should prepare.

Please call the phone number on your appointment letter if you have any questions or concerns. If you feel unhappy with your care, please ask to speak to the superintendent radiographer.

**Please read this leaflet carefully. It will help you prepare correctly for your MRI appointment.**

- Please contact the X-ray Department if your weight is 133kg (21 stone) or more. You may need a different type of procedure.
- If you bring young children to your appointment, please make sure that they have someone to supervise them whilst you have your scan. Our team are unable to supervise children. You may be asked to rebook your appointment for when you have childcare arranged if you bring children who require supervision.
- You will need to have had a blood test within 3 months before your appointment if you are having a contrast scan and are above the age of 65 years or have a history of kidney disease. This is important as we need to check your kidney function before you are given contrast agent (dye).



### **Kidney function blood test**

If you need a kidney function blood test, please request an e-GFR blood request form from who referred you.

- If you have been referred by your GP, please ask your GP for an e-GFR blood request form.
- If you have been referred by a hospital doctor, nurse, or other healthcare professional, then please contact the department you were referred from ask for an e-GFR blood request form.
- You need to bring your blood test result to your appointment if you had your test within the last 3 months at a GP practice outside of the Coventry area.

**If your blood test results are not available when you arrive for your appointment, it is unlikely that you will have your MRI scan. Your appointment will need to be rearranged for after you have your blood test results.**

### **Having a blood test**

There are more than 30 blood test clinic locations in and around Coventry. You can book in advance at most clinics.

Visit [www.uhcw.nhs.uk/bloodtests](http://www.uhcw.nhs.uk/bloodtests) to find the clinic most convenient for you and book an appointment.

Our main blood test clinics are at:

- **City of Coventry Health Centre**, Stoney Stanton Road, Coventry, CV1 4FS
- **University Hospitals Coventry and Warwickshire**, Clifford Bridge Road, Coventry CV2 2DX
- **Hospital of St Cross**, Barby, Rd Rugby, CV22 5PX
- **George Eliot Hospital**, College Street, Nuneaton, CV10 7DJ
- **Warwick Hospital**, Lakin Rd, CV34 5BW
- **Stratford Hospital**, Arden Street, Stratford Upon Avon, CV37 6NX

### Arriving for your appointment

- Please bring with you any sprays or inhalers that you are taking.
- Please leave any valuable possessions at home. You can bring your mobile phone with you and this will be kept safe during the scan.
- **Please arrive in the department at least 90 minutes before your appointment time.** This is important. We need this time to check your safety questionnaire and prepare you for your MRI scan.
- We may not be able to scan you if you arrive late. We will rearrange your appointment for another time if this happens.
- We will not perform your scan if we cannot confirm MRI compatibility of any device which is within or attached to your body (such as a pacemaker or newly inserted metal implant such as a hip or knee joint). A new appointment will be arranged once we have the correct information.

### Preparing for your MRI scan

- **Please do not eat anything for 6 hours before your appointment.** Clear fluids may be drunk up to 2 hours before your appointment. This includes black tea or coffee, squash, clear soups, and plain water.
- Please continue to take medicines prescribed by your doctor as normal.
- Please attend your appointment in clothing that does not contain metal fastenings, zips, or decoration. If this is not possible, our team will provide a hospital gown.
- Please complete the safety questionnaire that has been sent to you. Bring it with you to your appointment.

### What will happen when you arrive?

- Please go to the reception desk in the Radiology (X-ray) department. We will then direct you to the MRI department.
- You will be asked to undress and put on a suitable gown if needed. You can bring your own dressing gown.
- Please try to leave all your valuables at home. You cannot take valuables into the scan room with you. You will be asked to remove any credit cards, valuables and metal objects including mobile phones, that are in your possession. They will stay with the radiographers whilst you have your MRI scan.

## Patient Information

- You will be asked to remove coloured contact lenses and hearing aids before your MRI scan.
- We will check your safety questionnaire with you. You will then be given a sugar-based drink which you need to drink over a period of 40 – 60 minutes.

## MRI risks

No short-term harmful effects from MRI scans are known. The use of magnetic fields is not thought to be harmful, although long term side effects are unknown.

## What is Buscopan (hyoscine butylbromide)?

We will give you a small dose of Buscopan (hyoscine butylbromide). This is to stop muscle movement in your digestive system (peristalsis) whilst you have your scan.

Buscopan is a muscle relaxant that relaxes your bowel muscles. It helps achieve clearer pictures using MRI and will help with diagnosis.

Buscopan can affect the muscles of your eyes as well and can cause blurred vision. This usually gets better within 30 minutes.

**If you experience any redness or pain in the eyes over the next 24 hours after taking Buscopan, contact your GP urgently and show them this leaflet. This is a very rare occurrence.**

## What is Mannitol?

Mannitol is a sugar-based drink. We will give you a Mannitol solution to fill your small bowel. The amount of Mannitol solution that we ask you to drink can vary from 800ml to 1500ml. This is to help us to get good pictures of your bowel. This then helps us when reporting any findings to your doctor.

Mannitol has mild side effects which include:

- diarrhoea for a few hours after the scan
- bloating (abdominal spasm)
- flatulence
- vomiting

## Patient Information

You will need easy access to a toilet once you have taken the Mannitol solution. Please remember this when planning your activities after the scan.

Please also remember to drink plenty of fluid to avoid dehydration, particularly after your scan.

If you are under the care of a kidney specialist, you should continue to drink from your normal fluid allowance. If you pass a lot of fluid when you poo after taking Mannitol, you can relax your fluid restriction to prevent dehydration. Please contact your home care nurse, dialysis nurse or kidney specialist if you are unsure about your fluid allowance in relation to the laxative effect.

If you wear a stoma bag, we recommend that you bring a spare bag and change of clothes to your appointment. There will be time and facilities to empty your stoma bag before you drink Mannitol solution and have your MRI scan.

It is possible to drink water as bowel preparation rare instances where you are not able to tolerate Mannitol.

- Mannitol has been authorised for off label use (as an oral contrast medium) by the UHCW drug and therapeutics committee.
- Off label means that the medicines are being used in a way that is different to that described in the license. In the case of mannitol, it is being used orally rather than intravenously.
- some examples of “off label” use:
  - Using a medicine for an illness to that stated in the license
  - using a medicine at a higher dose than stated in the license
  - using a medicine in an age group outside the licensed range e.g. in children

### **Diabetes: does Mannitol affect blood sugar?**

Mannitol has a minor effect on blood sugar levels as only a small part of the ingested mannitol is absorbed and broken down.

Most of the ingested Mannitol is not absorbed and goes through to the colon where it is used up by the natural bacteria in the gut.

## Patient Information

It is important that you continue your normal insulin or medicines for your diabetes so that your blood sugar levels do not vary from your normal. It is useful to keep some diabetic substitute drinks or snacks on hand and check your blood sugar regularly.

### **What is gadolinium contrast medium (dye)?**

Gadolinium contrast medium is sometimes called “MRI contrast medium” or “dye”. When injected into the body, gadolinium contrast medium helps improve the quality of MRI scan pictures. This helps a specialist doctor when they assess the pictures and provide a report to your doctor or specialist.

Gadolinium contrast medium is injected into a vein (intravenously) before your MRI scan and eliminated from the body through in your urine.

### **Contrast risks**

#### **Pregnancy, possible pregnancy, and breastfeeding**

Please inform your doctor or radiologist before having an MRI scan if you are pregnant or think you might be pregnant. This is so that your doctor can discuss with you the risks and benefits of an MRI scan.

Where relevant, you will be asked about the possibility of pregnancy as part of safety checks before any MRI scan. If you are pregnant or possibly pregnant, it is unlikely that you will have a gadolinium contrast injection unless it is essential. Your doctor will discuss this with you before the injection if gadolinium contrast medium is recommended.

If you are breastfeeding, it is safe to continue breastfeeding after the gadolinium contrast medium is given. It is not thought to represent any danger to your child as the amount received by your baby is small.

### **Side effects from the gadolinium contrast medium**

Gadolinium contrast medium is very safe. Side effects or reactions are uncommon but can occur. The most common side effects are headache, nausea, and dizziness. These occur in a small minority of patients only, but if they do, they will be noticed within minutes of the injection if they do occur.

## Patient Information

An itchy skin rash might appear a few minutes after a gadolinium contrast injection in approximately 1 in 1000 patients. The rash will usually resolve by itself.

Severe allergic (anaphylactic) reactions to gadolinium contrast medium are extremely rare. These severe reactions can involve difficulty breathing and swelling of the lips and mouth. They occur in approximately 1 in 10,000 patients who have a gadolinium contrast injection.

If you have had a history of a previous allergic reaction to a gadolinium contrast injection, or a severe allergic reaction to another material, please tell your doctor and the radiology team.

If you experience any symptoms of allergic reaction during your appointment, you will be checked by a doctor before being sent home.

Nephrogenic systemic fibrosis (NSF) is a rare condition associated with gadolinium contrast medium when given to patients with severe kidney disease. Its onset can occur days, weeks, or months after receiving gadolinium contrast medium. Most cases occur within 6 months of the last dose. This has become extremely uncommon as we check patients' kidney function routinely before any scan.

Very small amounts of gadolinium contrast medium stay in your body. This is about 1% of the injected dose which stays mostly in the bones, and very small amounts in the brain. There are no known adverse effects from these very small amounts gadolinium contrast medium. This is why we only recommend gadolinium contrast medium where it is likely to assist diagnosis.

## Safety

### **Patients aged 12 to 55 years**

Although the risk to babies in pregnancy is very small, you will be asked to confirm that you are not pregnant before your MRI scan. If you are pregnant, there are circumstances where the benefits of a scan outweigh the risks. You will decide this with your referring doctor.

It may not be possible for some patients to have a scan due to the magnetic field produced by MRI. Patients who have a pacemaker, ear implants, surgical clips or any implants within their head or body should

## Patient Information

contact the MRI department using the phone number on your appointment letter.

If you have had an accident involving metal fragments and your eyes, you should contact the MRI department using the phone number on your appointment letter. You will need to have an X-ray to confirm there are no metal fragments remaining. This must be arranged before your MRI scan.

### **During your MRI scan**

You will be asked to drink between 800 to 1500mls of the Mannitol sugar solution after you have had safety checks with a radiographer or radiology assistant. This solution should reach the end of your small bowel within 40 to 60 minutes. Sometimes this can take longer. The MRI scan can then begin.

The radiographer will help you onto the MRI scanner table. This table moves into the open-ended MRI scanner. The radiographer operating the scanner can see you during your scan. It is important that you remain very still to help us get good quality pictures. The scan should take 30 minutes to complete.

The radiographer will insert a small plastic tube (venflon) into one of your veins. This is so they can give you contrast medium and muscle relaxant during your scan.

During the scan, you will hear tapping sounds which may become loud. This is normal. We will give you headphones or earplugs to protect your ears from the noise.

### **After your MRI scan**

You can get dressed and go home when MRI scan is finished. Please contact your GP if you have any problems after the MRI scan.

### **Your results**

Your results will not be given to you immediately. They will be sent to the doctor who referred you to us once we have assessed the pictures.



## Patient Information

### More information

If you have any questions or would like further information, please contact the MRI Department using the contact details on your appointment letter.

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact the telephone number on your appointment letter and we will do our best to meet your needs.

The Trust operates a smoke-free policy.

### Did we get it right?

We would like you to tell us what you think about our services. This helps us make further improvements and recognise members of staff who provide a good service.

Have your say. Scan the QR code or visit:  
[www.uhcw.nhs.uk/feedback](http://www.uhcw.nhs.uk/feedback)



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